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Rice varieties for Louisiana

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RICE VARIETIES FOR LOUISIANA

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RICE VARIETY RECOMMENDATIONS

Based on performance in field and nursery tests and availability of seed, the following recommendations for Louisiana can be made:

Early medium-grain	Zenith Magnolia
Early midseason long-grain	Bluebonnet Fortuna Nira
Midseason medium-grain	Blue Rose Blue Rose 41
Late long-grain	Rexoro Texas Patna

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Rice Varieties for Louisiana[1]

Nelson E. Jodon and D. A. de la Houssaye[2]

Introduction

A marked shift to new and improved rice varieties has recently taken place. This was stimulated by established higher prices for certain types and by the adoption of the combine-drier method of harvesting. However, the disease susceptibility and increasingly less satisfactory performance of Early Prolific and Blue Rose also were becoming evident. These were the principal early and late medium-grain varieties grown in the southern rice area for over 25 years. They are being replaced by Zenith and more recently by Magnolia, both productive early varieties better suited for drying and commanding a price comparable to Blue Rose. In the long-grain type there has been a marked increase in the acreage devoted to Rexoro and Fortuna, and the new Bluebonnet variety. These varieties are even better adapted for combining and drying than the medium-grain types and almost always command better prices.

The 1948 crop consisted of too high a proportion of early rice for orderly marketing, and this resulted in many growers returning to the binder-thresher method of harvesting so that they could sack and hold their rice for a more favorable price. The proportion of varieties of the different grain types, and of different maturities will no doubt undergo further adjustment. New varieties being developed at the Rice Experiment Station, Crowley, La., and other rice stations, in cooperation with the U. S. Department of Agriculture, may aid in this adjustment. Rice breeding has progressed so far that adapted improved varieties are becoming available much more rapidly than was possible when introduction from foreign countries and selections from standard varieties were the only sources of new varieties. The grower is always hoping for better and still better varieties, and the breeders are confident that considerable improvement over present varieties is possible.

Classification of Varieties

Varieties may be classified for the practical purposes of the grower and miller on the basis of time of maturity and grain type groups (Table 1).

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[1]Cooperative experiments with the Louisiana Agricultural Experiment Station and the Division of Cereal Crops and Diseases, Bureau of Plant Industry, Soils, and Agricultural Engineering, Agricultural Research Administration, U. S. Dept. of Agriculture.

[2]Associate Agronomist and Assistant Agronomist, respectively, Rice Experiment Station, Crowley, La.

Table 1. A Classification of Varieties on the Basis of Time of Maturity and Grain Type.

Grain Type	*Relative Length of Growing Period*			
	Early Maturing	*Medium Early*	*Medium Late*	*Late Maturing*
Approximate days from seeding to maturity	125	140	155	170
Medium	Zenith Magnolia Lacrosse 250		Blue Rose	
Intermediate		Sel. 322A6-23		Sel. 3-72-3
Long		Bluebonnet Fortuna Nira		Texas Patna Rexoro

The earliest varieties now grown commercially mature in about 125 days, and the latest in about 170 days in southern Louisiana. Grain types may be designated as short or pearl, medium, and long. Practically no pearl type rice is now grown in Louisiana. Medium-grain types may be further subdivided into large and small, and long-grain types into thick and slender. A new intermediate type, which is represented by two promising selections, mills much better than the ordinary long-grains while comparing favorably with them in appearance and quality. As indicated in Table 1, suitable varieties of some groups have not yet been developed. One of the goals of the breeding program is to develop varieties that conform to a few standard grain types, so that regardless of the maturity of the varieties grown, milled rice may be marketed on the basis of type alone.

Improved Characteristics Being Sought

Possible benefits from improved varieties include disease resistance, better adaptation for combine harvesting, increased yields, and wider choice of grain types and maturity. But it should be recognized that the benefits to be derived from such varieties may be nullified unless proper attention is given to pure seed, the control of red rice and other weeds, and good soil management practices.

The desirable characteristics that should be incorporated into a limited number of improved varieties may be outlined as follows:

A. Better adaptation to mechanical harvesting.
   1. Stiffer, shorter straw, more uniform height and ripening.
   2. Easy threshing by combines.
   3. Smooth hulls and leaves to reduce irritating dust.
   4. Grain shape suitable for easy drying.

B. Improved quality.
   1. For milling.
      a. Greater resistance to breakage in milling.
      b. Less tendency to produce pecky rice.
   2. For cooking, as to consumer preference.
      a. Moist, or slightly sticky, for general trade.
      b. Dry, or flaky, for fancy trade.

C. Improved yield.
   1. Better resistance to diseases.
   2. Increased percentage of filled grains (reduction of blank florets).
   3. Large panicles and heavier grain weight.

D. Improved seasonal distribution for harvest.
   1. Medium-grain varieties in different maturity groups.
   2. Long-grain varieties in different maturity groups.

Methods of Testing Varieties

As soon as promising uniform strains are recovered from crosses they are entered in nursery row tests for comparison with standard varieties of the same general type. These tests give sufficient information on time of maturity, height, strength of straw, yield and grain quality to eliminate many selections. Those that are retained undergo further preliminary testing and seed increase.

The most promising selections are entered in the regional uniform nurseries and tested at the three southern rice experiment stations. The superior selections are also entered in the field plot tests, which are, so far as possible, conducted under ordinary field conditions. There may be seed enough for only one plot the first year, but thereafter three or four plots of each variety are sown. The field plots are one drill strip in width, and usually about 150 feet in length, or about 1/40 to 1/30 of an acre, depending on the area available. The plots within a group are distributed at random over the experimental area in order to avoid the favoring of any variety by a superior location.

Field plot tests are organized into four groups on the basis of time of maturity. Typical standard varieties now used for comparison are Zenith and Magnolia in the early group, Bluebonnet and Fortuna in the early midseason group, Blue Rose in the medium late group, and Rexoro in the late group. About ten varieties and selections are included in each group.

Results of Plot Experiments

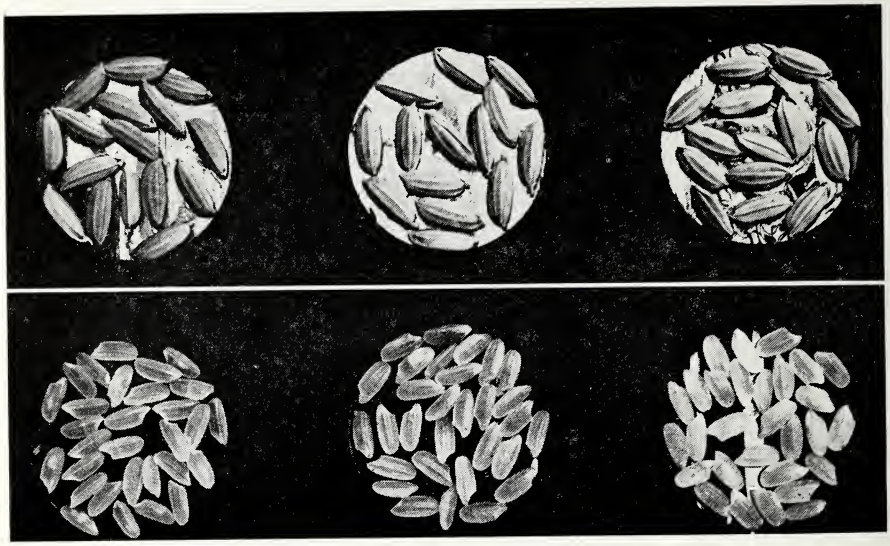
The yields from field plot tests are given in Table 2. Space does not permit detailed tabulation of the nursery yields. The varieties are grouped in Table 2 as they were in the tests. Yield data for eight years are available for 15 varieties, and data for three years for 11 newer varieties and selections are presented. Relative yields on a percentage basis are given for the same varieties in Table 3, in which yields from nursery and outfield tests in addition to those from field plots are included. Outfield tests are conducted in order to obtain information on the performance of varieties in the various parts of the rice area. These are conducted in nursery and drill strip plots, grouped as above but with fewer entries.

Variety Recommendations for 1949

The varieties recommended for growing in 1949 are the same as for 1948. Based on performance in field and nursery tests and availability of seed, the following varieties are recommended for Louisiana: early medium-grain—Zenith and Magnolia; early midseason long-grain—Bluebonnet, Fortuna and Nira; midseason medium-grain—Blue Rose and Blue Rose 41; and late long-grain—Rexoro and Texas Patna. These varieties also are listed on the inside cover page. Possibly the acreage sown to long-grain varieties will increase somewhat with a decrease in other types. In 1948, more than 50 per cent of the Louisiana acreage was sown to early medium-grain varieties, resulting in a glutted market early in the harvest season. If the acreage were properly adjusted among the different varieties, the seasonal marketing of the crop should be more orderly. The suggested adjustments are to reduce the Zenith acreage to about one-half that of last year, reduce Fortuna slightly, and offset these by increases in Magnolia, Bluebonnet, Texas Patna, Rexoro, and Nira. The acreage of Blue Rose might remain about the same as in 1948. The suggested proportions then would be Texas Patna and Rexoro about 25 per cent, Bluebonnet 20 per cent, Zenith 20 per cent, Blue Rose 12 per cent, Magnolia 10 per cent, Fortuna 10 per cent, and Nira 3 per cent.

Magnolia is easier to combine than Zenith, and although the latter may be slightly more productive, Magnolia has brought a price equal to or slightly higher than the best grades of Zenith.

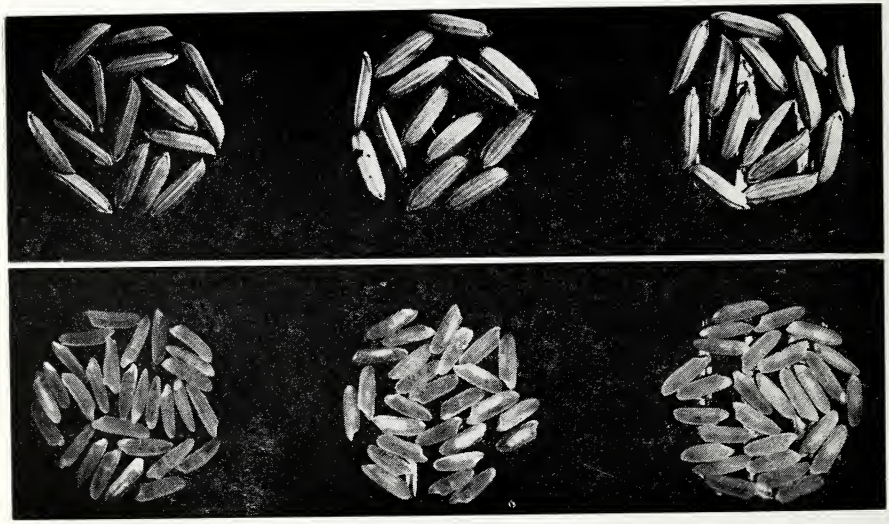
Bluebonnet has failed to gain favor because pure seed has not been available and because poor stands often were obtained. Better seed of Bluebonnet is probably now available, and the use of seed treatments should ensure satisfactory stands. The yield of Bluebonnet is equal to that of Fortuna and the grain is less chalky.



ZENITH
C.I. 7787

MAGNOLIA
C.I. 8318

Lacrosse 250
C.I. 8985

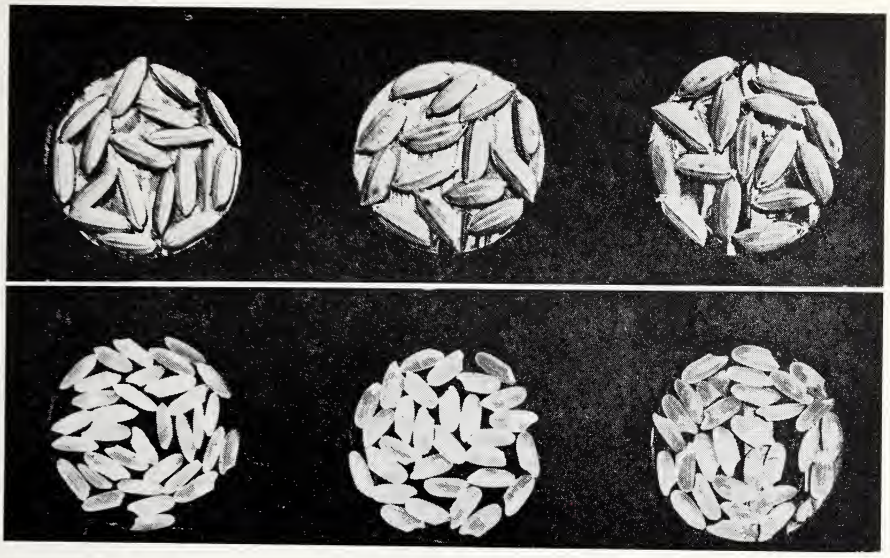


BLUEBONNET
C.I. 8322

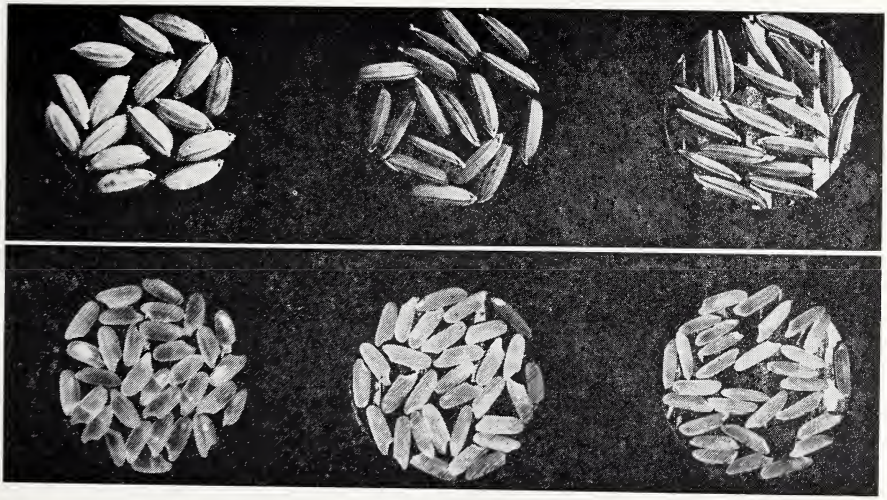
FORTUNA
C.I. 1344

NIRA
C.I.2702

ections arranged in order of maturity. *(Photo by Dr. E. C. Tims.)*



REXORO x FORTUNA C.I. 8987 | IMPROVED BLUE ROSE C.I. 2128 | BLUE ROSE 41 C.I. 8317



(B.R.xREX.) x B.R. 6 1-25-12 | REXORO x PURPLE LEAF C.I. 8986 | REXORO C.I. 1779

white tip. [5]Threshing difficult or easy. [6]Pearl, medium, medium-long, large-long, and long-slender. [7]Some kind was grown [illegible]
medium sticky, sticky, very sticky, medium flaky, or flaky. [8]Yield relative to the average yield of the tests.

Variety	C. I. No.	1941	1942	1943	1944	1945	1946	1947	1948	Average 8 Years	Average 3 Years
Early Group											
Cody	8642	....	....	....	....	....	11.8	17.8	13.2	....	14.3
Sel. 252-1-2	....	....	....	....	....	....	16.3	21.2	14.8	....	17.4
Early Prolific	5883	10.7	11.6	13.0	12.2	12.9	12.9	18.9	14.7	13.4	15.5
Zenith	7787	10.5	14.2	10.8	12.6	11.8	14.1	15.3	14.3	13.0	14.6
Magnolia	8318	13.1	12.8	10.9	9.7	10.8	13.8	14.0	14.7	12.5	14.2
Lacrosse 250	8985	....	....	....	....	....	18.5	19.9	13.8	....	17.4
Prelude	8311	11.7	12.1	14.6	9.4	10.6	12.9	19.0	12.8	12.9	14.9
Early Midseason Group											
Caloro	1561–1	13.1	7.9	15.0	8.5	10.5	10.6	12.4	11.2	11.2	11.4
Rexark	8644	....	....	....	....	....	8.5	14.1	14.6	....	12.4
Bluebonnet	8322	17.1	8.9	14.5	10.4	8.2	15.9	15.1	12.2	12.8	14.4
Fortuna	1344	14.0	10.0	15.3	10.4	8.7	14.1	12.3	13.9	12.3	13.4
Sel. B34B40-9	....	....	....	....	....	....	11.8	10.9	11.1	....	11.3
Sel. 45-8134-9	....	....	....	....	....	....	11.0	13.9	13.1	....	12.7
Arkrose	8310	12.6	8.4	12.9	10.9	12.5	10.0	14.2	14.6	12.0	12.9
Sel. 322A6-23	8987	....	....	....	....	....	12.5	11.6	16.2	....	13.4
Acadia	1988	15.4	9.6	16.6	11.0	13.4	6.9	10.2	11.5	11.8	9.5
Nira	2702	14.7	4.6	14.8	10.7	9.2	12.9	12.1	8.7	11.0	11.2
Late Midseason Group											
Improved Blue Rose	2128	12.3	9.1	16.9	10.1	12.8	8.9	8.6	11.0	11.2	9.5
Blue Rose 41	8317	12.3	8.9	15.2	10.4	14.7	10.5	9.7	11.3	11.6	10.5
Sel. 3 I-9-2-4	....	....	....	....	....	....	17.5	15.3	16.9	....	16.6
Sel. 6 I-25-12	....	....	....	....	....	....	16.3	13.4	16.8	....	15.5
Late Group											
Sel. 3-72-3	8986	....	....	....	....	....	12.6	9.4	14.0	....	12.0
Texas Patna	8321	15.4	13.4	12.0	8.1	13.4	9.8	8.0	13.2	11.7	10.3
Sel. 7/8 Rex. 3-22	....	....	....	....	....	....	12.0	10.3	10.5	....	10.9
Delrex	8320	13.8	13.5	15.1	11.3	16.9	13.6	8.9	9.4	12.8	10.6
Rexoro	1779	16.2	13.8	11.5	7.5	6.3	11.4	9.2	14.2	11.3	11.6
AVERAGE										12.1	13.0
Difference for significance, 5% point										4.3	3.7

Table 3. Data and Characteristics for Comparison of 29 Varieties and Selections.

Variety and Cross	C. I. No.	Released from	Average Date[3]		Ht. in Inches	Diseases[4]		Hull Color	Pubescence	Ease of threshing[5]	Grain Type[6]	Milling[7]		Table Quality[8]	Yield in % of mean[9]
			1st Panicle	Mature		C.O.	W.T.					Total	Whole		
Cody (Colusa x Lady Wright)	8642	Mo.	7/12	8/25	41	S	Tr	Straw	Hairy	Dif.	Pearl	112	101	S	99
Early Prolific	5883	[1]	7/15	8/25	47	S	S	Straw	Hairy	Dif.	M.L.	110	92	V.S.	102
Iola—B.R. x Shoemed-Fortuna Sel. No. 252-1-2		[2]	7/16	8/26	44	R	R	Straw	Smooth	Easy	M.L.	107	73	F	112
Magnolia (Imp. Blue Rose x Fortuna)	8318	La.	7/16	8/23	43	M	Tr	Straw	Hairy	Easy	M	112	93	S	96
Zenith (Sel. from Blue Rose)	7787	Ark.	7/18	8/24	43	S	M	Straw	Hairy	Dif.	M	110	90	M.S.	101
Lacrosse 250 (Colusa-Blue Rose x Shoemed-Fortuna)	8985	La.	7/24	9/6	42	M	Tr	Straw	Smooth	Dif,	M	109	85	S	116
Prelude (Imp. Blue Rose x Fortuna)	8311	Ark.	7/24	9/2	44	S	M	Straw	Hairy	Dif.	L.L.	107	78	M.F.	101
Caloro (Sel. from Early Wataribune)	1561–1	Cal.	7/27	9/8	41	S	M	Straw	Hairy	Dif.	Pearl	112	96	S	86
Hill Long Grain (Sel. from Rexoro)		[1]	7/29	9/6	44	S	R	Gold	Smooth	Easy	L.S.	107	61	F	77
Rexark (Rexoro x Supreme Blue Rose)	8644	Ark.	7/29	9/13	45	R	Tr	Gold	Smootn	Dif.	L.S.	107	65	M.S.	100
BR-Rex. x Rexoro Sel. No. 4-II-1-8		[2]	8/3	9/9	49	R	R	Straw	Smooth	Easy	L.S.	109	70	F	104
Bluebonnet (Rexoro x Fortuna)	8322	Tex.	8/3	9/9	47	M	R	Straw	Smooth	Easy	L.S.	109	66	F	100
Fortuna (Introduction)	1344	La.	8/7	9/14	50	S	R	Straw	Hairy	Easy	L.L.	110	73	F	103
Rexoro x Nira Sel. No. B34B40-9		[2]	8/7	9/14	46	R	R	Gold	Smooth	Easy	L.L.	109	77	F	96
Iola x Nira Sel. No. 45-8134-9		[2]	8/7	9/18	51	R	R	Straw	Smooth	Easy	L.L.	106	72	F	114
Arkrose (Caloro x Blue Rose)	8310	Ark.	8/7	9/16	47	R	S	Straw	Hairy	Dif.	M	112	98	S	99
Rexoro x Fortuna Sel. No. 322A6-23	8987	[2]	8/8	9/13	48	S	R	Straw	Hairy	Easy	M.L.	112	89	F	101
Kamrose (Kameji x Blue Rose)	8314	Ark.	8/8	9/16	46	R	Tr	Straw	Hairy	Dif.	M	113	99	S	104
Acadia (Sel. from Omachi)	1988	La.	8/10	9/21	43	S	M	Straw	Hairy	Dif.	Pearl	112	92	S	95
Nira (Introduction)	2702	La.	8/13	9/18	51	R	R	Straw	Smooth	Easy	L.L.	108	66	F	96
Improved Blue Rose	2128	[1]	8/17	9/24	48	S	S	Straw	Hairy	Dif.	M	112	96	S	97
Blue Rose 41 (Sel. from Imp. Blue Rose)	8317	La.	8/17	9/24	47	M	Tr	Straw	Hairy	Dif.	M	112	96	S	104
Blue Rose—Rex. x Blue Rose Sel. No. 3I-9-2-4		[2]	8/20	10/1	48	R	M	Straw	Smooth	Dif.	M	107	90	S	129
Rexoro x Purple Leaf Sel. No. 3-72-3	8986	[2]	8/23	10/2	47	S	R	Gold	Smooth	Easy	M.L.	112	90	F	94
B.R.—Rex. x Blue Rose Sel. No. 6-I-25-12		[2]	8/24	10/4	47	R	M	Straw	Smooth	Easy	M	109	80	S	107
Texas Patna (C. I. 5094 x Rexoro)	8321	Tex.	8/26	10/5	51	S	R	Gold	Smooth	Easy	L.S.	108	75	F	97
B. R.—Rex. x Rex. x Rex. Sel. No. 7/8 Rex.-3-22		[2]	8/28	10/9	42	R	R	Gold	Smooth	Dif.	L.S.	108	75	F	101
Delrex (Rexoro x Delitus)	8320	La.	8/29	10/9	53	R	R	Gold	Smooth	Easy	M.L.	109	75	F	97
Rexoro (Introduction)	1779	La.	9/1	10/11	49	S	R	Gold	Smootn	Easy	L.S.	108	69	F	92

[1]Released by commercial rice growers. [2]Experimental varieties, not released. [3]Average date of seeding, April 15. [4]*Cercospora oryzae* (long brown spot) and white tip. [5]Threshing difficult or easy. [6]Pearl, medium, medium-long, large-long, and long-slender. [7]Pounds total and whole (head rice) per barrel. [8]Cooking medium sticky, sticky, very sticky, medium flaky, or flaky. [9]Yield relative to the average yield of the tests.

Fortuna is a productive and widely adapted variety. It has become more subject to disease than formerly. Nira is as productive as Fortuna when good stands are obtained, and the grain is of better quality. Its resistance to disease is the best of any variety grown in Louisiana, but the plant is very tall and tends to lodge.

Blue Rose is still in favor for milling, but because of its susceptibility to diseases, weakness of straw, and difficulty in combining and drying, farmers have shifted to the early medium-grain varieties. Blue Rose 41 shows less white tip and leaf spot diseases, has a stiffer straw, and on the average appears to yield somewhat better than Improved Blue Rose.

Rexoro unfortunately has become very susceptible to the narrow brown leaf spot disease in recent years. Stem rot (crinkle) also often affects it. Texas Patna is subject to the same diseases and has a greater tendency to lodge, but competes better with grasses, matures about a week earlier, and may yield somewhat better than Rexoro.

Comparison of Varietal Characteristics

The more important characteristics of the varieties are listed in Table 3. The varieties are listed in order of maturity as indicated by the date of first emergence of the panicles from the boot. The number of days from first panicle emergence to maturity has averaged 39.5, but this differed among the varieties. Most of the tests were seeded during the month of April, so that the dates for first emergence of panicles and for maturity correspond to mid-April seeding.

The shorter-strawed varieties are ordinarily less likely to fall (lodge) than are the taller varieties, but the size of the culm is also an important factor in lodging.

The reaction to two diseases, Cercospora (narrow brown leaf spot) and white tip, are indicated in Table 3. All of the varieties now in commercial production are susceptible to Cercospora. When first grown most varieties apparently were resistant, but new races of the organism to which they are susceptible have arisen. White tip appears to some extent on the short and medium-grain varieties, but in Louisiana is seldom related to low yields except in Blue Rose.

Hull color and pubescence (hairiness of hulls and leaves) serve to differentiate varieties. Leaf and hull hairs result in a very irritating dust during harvesting and drying operations; thus the smooth-hulled varieties are much more desirable.

There is considerable difference in the tightness with which the grains are attached to the panicles. Varieties that thresh very easily are subject to loss by shattering when cut with a binder, while those that are tightly attached are usually difficult to thresh with a combine, especially if the straw is somewhat wiry.

Grain type is given as short or pearl, medium, medium-long, large-long, and long-slender. Practically no pearl type rice is now grown in Louisiana. The medium-grain types mill with less breakage than the long types, but the long-grain types are more attractive and usually bring a higher price. The available long-grain varieties are better suited to combine harvesting because they thresh easily and, having a smaller grain diameter, dry more readily. Milling quality indications are based on shelling tests conducted by the Federal-State Grading Office. This is expressed in total pounds of milled rice, and whole or head rice per barrel. The quality of the cooked rice is indicated as medium sticky, sticky, very sticky, medium flaky, or flaky. The short- and medium-grain varieties are usually somewhat sticky, whereas the long grains are usually flaky. Cooking quality is sometimes described as "moist" or "dry." There is a considerable demand for the slightly sticky or "moist" type in the South, but in other sections the flaky or "dry" type probably is preferred by consumers.

The data on yields on a percentage basis are given in Table 3. The percentage yield of each variety is based upon the average yields of all other varieties of the same type and maturity that were included in the same tests. Some selections were included in only six or seven tests, while upwards of 20 tests were made of others that were grown over the entire period.

Other Varieties

Several varieties, most of which are very productive under suitable conditions, are not generally recommended for production in Louisiana. Some are short-grain (pearl) types for which there is little demand, some are adapted to different growing conditions, and some might well be replaced with better-adapted, better-quality varieties of similar type which are already in production.

The pearl type Cody variety has become popular in northern Arkansas where it is adapted. Under Louisiana conditions, it begins to head earlier than Zenith and Magnolia but does not mature appreciably earlier and does not produce grain of a very good quality.

Early Prolific formerly was the only early-maturing variety in production. Zenith and Magnolia should replace it since they are equally productive and superior in quality.

Prelude is the leading long-grain variety in Arkansas. It has stiff straw but is rather difficult to thresh. It is earlier than Bluebonnet, but the latter is to be preferred owing to better quality.

The Hill Long-grain variey is slightly earlier than Bluebonnet and has good grain quality, but it is inferior in tillering capacity and in yield. It is easily drowned out by deep water applied at the first irrigation for the control of weeds.

Rexark is an early long-grain newly-released variety developed at the Stuttgart, Arkansas, station. In Louisiana, it ripens no earlier than Bluebonnet, has weaker straw, and is harder to thresh. Little or no seed is now available for growing in Louisiana.

Caloro is the principal variety grown in California, where it produces very high yields. In Louisiana, the yield is probably below that of other pearl varieties, and in common with other varieties of this type the grain tends to be chalky and pecky.

Acadia is a pearl variety similar to the old Wataribune. It is no longer grown commercially though it has been retained in the plot tests for comparison.

Asahi is a stiff-strawed variety, imported from Japan, that is no longer grown in Louisiana because of lack of demand for pearl type rices.

Calady is a medium-grain variety that matures somewhat earlier than Blue Rose. It is adapted to California conditions but is unsuited for growing in Louisiana.

Arkrose is an important medium-grain variety in Arkansas, where it is somewhat earlier and more certain than Blue Rose. It shows more white tip than does Blue Rose, but the yields from experimental plots compare favorably with those of Blue Rose. It is, however, weak-strawed and hard to thresh.

Kamrose is similar to Arkrose in grain type, has good disease resistance, and is perhaps more productive in Louisiana but is extremely difficult to thresh.

Delrex is a "scented" or "flavored" rice that was released from the Crowley station. A market for this type of rice has not been developed in this country, but some growers may be interested in producing small amounts for home consumption.

Some Promising New Varieties

Several selections are sufficiently promising to justify consideration for possible release as new varieties. Sel. No. 252-1-2 is an early smooth-hulled strain that has yielded well and ripens very

uniformly. The grain type is intermediate between medium and long but the grain is probably too chalky.

Sel. No. 250-121 is outstanding for yield and strength of straw. The grain is of medium type. It is unusual in that although the grain is so tightly attached that there is no shattering in harvesting with a binder, it also combines very satisfactorily. Seed has been increased in quantities sufficient to sow more than 400 acres. This selection is being named and released as "Lacrosse 250."

Sel. No. 411-1-8 is a long-grain type maturing at the same time as Bluebonnet. The grain is somewhat clearer and more slender than that of Bluebonnet but the straw is probably not so strong.

Sel. No. B34B40-9 is a long-grain rice with stiff straw developed at the Beaumont, Texas, station. It matures about the same time as Fortuna and has a similar type of grain.

Sel. No. 45-8134-9 is a long-grain rice very similar to Nira but not so tall and probably is more productive.

Sel. No. 322A6-23 has an intermediate type of grain that in milling gives a higher percentage of head rice than do the commercial long-grain types. The milled product is very clear and attractive. It matures at the same time as Fortuna but has shorter straw. It appears to be especially well adapted to heavy soils.

Sel. 31-9-2-4 has given some of the highest yields obtained at Crowley from any variety. It is a smooth-hulled rice slightly later but very similar in plant and grain type to Blue Rose. It is very resistant to the narrow brown leaf spot disease and shows only a trace of white tip. The straw is slightly weak and the milling quality apparently is not quite equal to Blue Rose, but its superior yielding capacity may justify its release.

Sel. 61-25-12 matures at about the same time as Texas Patna. It has stiff straw, smooth hulls, and combines readily. The grain type is similar to that of Blue Rose but somewhat smaller. Several slightly different strains are being compared, and if any one of them proves as satisfactory for milling as it is for plant type, it may be released as soon as seed can be increased.

Sel. No. 3-72-3 is another selection with intermediate grain type and high mill yield of head rice. This selection has smooth hulls, stiff straw, and matures at about the same time as Texas Patna. It yields satisfactorily but unfortunately is susceptible to the narrow brown leaf spot disease and to straight head. Seed sufficient for sowing about 300 acres is available, and it is to be continued by cooperating farmers as an experimental variety.